

SANITATION TECHNIQUES FOR THE FOOD SERVICE WORKER

TESTING SITES

Central Region
1001 N. Central #560
Phoenix, AZ 85004
Phone: 506-2960

Eastern Region
1255 W. Baseline #124A
Mesa, AZ 85202
Phone: 506-6388

Western Region
3101 E. Shea #220
Phoenix, AZ 85032
Phone: 506-2960

Northern Region
3101 E. Shea #220
Phoenix, AZ 85032
Phone: 506-6388

For further information, please contact the office nearest you.

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MARICOPA COUNTY FOOD AND BEVERAGE SERVICE WORKERS MANUAL

INTRODUCTION

It is important that food service establishments be kept clean and sanitary. It is even more important to properly handle the foods to keep people from getting sick from the foods you prepare.

This booklet and test are designed to teach you about:

1. Food Poisonings
2. Temperature Control
3. Preventing Contamination of Foods
4. Approved Food Sources
5. Cleaning and Sanitizing

The test and booklet include a new emphasis on food poisoning prevention: mainly temperature control.

While this booklet will help you pass the test, it also can be used as a reference to help answer questions about proper food handling in your establishment. So keep it and use it. If questions come up and you cannot find the answer in this booklet, call your Maricopa County Regional Office for assistance.

Failure to follow good food handling practices will often lead to food poisonings. In addition, following these good food handling procedures will reduce losses from food spoilage and will help to protect the reputation of your business.

ALL FOOD WORKERS ARE RESPONSIBLE FOR SAFE FOOD HANDLING!

CHAPTER 1

FOOD POISONING

FOOD POISONING (FOODBORNE ILLNESS)

- **ILLNESS CAUSED BY EATING CONTAMINATED FOODS**
- **PREVENTED BY PROPER TEMPERATURE CONTROL**
- **PREVENTED BY GOOD PERSONAL HYGIENE**

Food poisonings are caused by eating foods that have become contaminated by bacteria, viruses, or chemicals. Foods can become contaminated by food workers who do not practice good personal hygiene, including handwashing. Proper handwashing and good personal hygiene help to keep bacteria from contaminating the food. Proper storage and labeling of chemicals minimize the chances of a chemical contaminating the food. Proper temperatures will slow the growth of bacteria and will help to prevent food poisonings.

SYMPTOMS OF FOOD POISONING (FOODBORNE ILLNESS)

- **NAUSEA, VOMITING, AND DIARRHEA ARE THE MOST COMMON SYMPTOMS**

There are many symptoms related to food poisoning. Nausea, vomiting, and diarrhea are the most common. Other symptoms such as cramps, headaches, muscle aches, fever, and chills also occur. Symptoms can start any time from a few minutes to a few days after eating the contaminated food. Onset times depend on type and amount of bacteria in the food. The severity of symptoms ranges from mild to severe. You can be sick for hours and sometimes for days.

BACTERIA (GERMS)

- **BACTERIA ARE EVERYWHERE**
- **BACTERIA NEED FOOD, WARMTH, AND MOISTURE TO GROW AND MULTIPLY**

Bacteria are found on all surfaces. If they have food, warmth, and moisture, they will multiply and can cause illness, and/or food spoilage. It is important to handle potentially hazardous foods properly so that bacteria do not multiply and cause food poisoning or food spoilage.

POTENTIALLY HAZARDOUS FOOD

- **HIGH PROTEIN, MOIST FOODS SUCH AS MEAT, FISH, POULTRY, EGGS, AND MILK**
- **THESE FOODS CAN CAUSE ILLNESS IF NOT HANDLED PROPERLY**

Almost any food made from animal products, such as meat, fish, poultry, eggs, and dairy products are considered to be potentially hazardous foods. Refried beans, cooked rice, and baked potatoes are also considered to be potentially hazardous foods. These types of foods contain the protein and moisture that bacteria need to grow and multiply. When potentially hazardous foods are kept at improper temperatures, the bacteria grow and multiply. These bacteria contaminate the food and can cause food poisoning.

WHAT TO DO IF YOU OR A CUSTOMER GETS FOOD POISONING

- **STOP SERVING THE FOOD**
- **CALL THE HEALTH DEPARTMENT**
- **SAVE THE QUESTIONABLE FOOD**

If you or a customer gets food poisoning, it is important to act immediately so that other people do not also become ill. Stop serving the food items that were eaten. Do not throw out the food. Save any questionable food in the refrigerator.

All food poisonings, including those that occur at restaurants, at home, at picnics, at church dinners, or at other events, should be reported immediately to the health department. The health department will work with you to determine how the food poisoning occurred and how to prevent it from happening again.

CHAPTER 2

TEMPERATURE CONTROL

THERMOMETERS

- **A METAL STEM THERMOMETER MUST BE USED TO CHECK FOOD TEMPERATURES**

- **A REFRIGERATION THERMOMETER IS NEEDED FOR EACH REFRIGERATION UNIT**

Temperature control is the most common method for limiting the growth of bacteria that cause food poisoning. The use of a metal stem thermometer is necessary during food preparation. Thermometers are needed to ensure that refrigeration and hot holding equipment is functioning properly and to monitor cooking, reheating, and cooling procedures. For checking internal food temperatures a metal stem thermometer that has a range of 0 Deg. F. to 220 Deg. F. works the best. Checking the temperature in the center of food is the only way to know if it is being kept at proper temperatures. Relying on thermostat settings or air temperature readings can be misleading.

All refrigeration units must have an accurate thermometer placed in the warmest section of the unit. Check these temperatures frequently to be certain each refrigeration unit is keeping food product temperatures below 45 Deg. F. If any refrigeration, cooling, or hot holding equipment is not keeping proper temperatures, get it fixed.

COOKING TEMPERATURES

- **POULTRY AND STUFFING 165 Degrees F.**
- **PORK 150 Degrees F.**
- **BEEF, LAMB, AND SEAFOOD 140 Degrees F.**
- **RARE BEEF 130 Degrees F.**
- **CHECK TEMPERATURES WITH A METAL STEM THERMOMETER**

Thorough cooking of potentially hazardous foods is important. All poultry, poultry products, stuffed meats, and stuffing must reach 165 Degrees F. or hotter to destroy salmonella and other bacteria. Pork and all pork products must reach at least 150 Degrees F. to prevent trichinosis. All other meats, meat products, seafood, and seafood products must be cooked to 140 Degrees F. or hotter in order to kill harmful bacteria. An exception is rare beef, which may be cooked to 130 Degrees F. if served right away. A stem thermometer is needed to check for proper cooking temperatures.

It is dangerous to cook large frozen roasts, frozen turkeys, or stuffed turkeys, because their size keeps the inner portions from reaching safe cooking temperatures. If the food is thawed first, then the heat can reach the center of the food faster.

To prevent microwaves from cooking foods unevenly, stir, turn the food and check temperatures with a metal stem thermometer before serving.

COLD HOLDING

- **KEEP COLD FOOD AT 45 DEGREES F. OR COLDER**
- **CHECK TEMPERATURES WITH A METAL STEM THERMOMETER**

Bacteria that cause food poisoning may grow in potentially hazardous foods that are not kept below 45 Degrees F. during cold holding. Cold holding of potentially hazardous foods should always be at 45 Degrees F. or colder. Fish, shellfish, poultry, milk, and red meat keep longer at temperatures below 40 Degrees F.

Refrigeration units must keep all potentially hazardous foods at temperatures below 45 Degrees F. Each unit must have an accurate thermometer placed in a visible place to measure the air temperature. A metal stem thermometer must be available to check the food temperatures on salad bars, in prep units, and other areas where food is kept cold.

Adequate air circulation is needed for the refrigeration unit to work properly and maintain cold temperatures. Store foods so that air can circulate. Do not overcrowd.

Ice may be used to keep cold foods below 45 Degrees F. when used at salad bars, prep tables, or for foods on display. When using ice in place of mechanical refrigeration, you must prechill all potentially hazardous foods to below 45 Degrees F. before placing in ice. The container of food must be packed in ice up to the level of the food.

HOT HOLDING

- **KEEP HOT FOOD AT 140 DEGREES F. OR HOTTER**
- **CHECK TEMPERATURES WITH A METAL STEM THERMOMETER**

Bacterial growth can occur at food temperatures that are warm but not hot. It is important to know the hot holding temperature for foods. Hot hoods must be held at 140 Degrees F. or hotter. Foods, as well as steam tables, soup warmers, and other hot holding equipment must be preheated. Set the temperature control high enough to maintain food product temperatures at 140 Deg. F. or hotter at all times. The only way to tell that the food is hot enough is to use your metal stem thermometer to check the temperature of the food. Do not heat cold foods in these units because they will not heat the food fast enough. Liquid hot foods should be stirred frequently to avoid cold spots. Keep covers on containers to maintain product temperatures.

REHEATING

- **RAPIDLY REHEAT TO 165 DEG. F. OR HOTTER**
- **CHECK TEMPERATURES WITH A METAL STEM THERMOMETER**

It is very important to rapidly reheat potentially hazardous foods to 165 Deg. F. or hotter. This is hot enough to kill most bacteria and destroy most viruses. Quick methods of reheating are best. Equipment which will rapidly reheat foods are: burners, convection ovens, double boilers, and microwave ovens. Do not use equipment that cannot reheat foods fast enough, such as steam tables, bain maries, crock pots, and steamers. To be sure that all parts of the food are thoroughly reheated, the food must be stirred or turned, especially if a microwave is used. A metal stem thermometer must be used to check for adequate reheating temperatures. All meats must be reheated to 165 Deg. F., therefore, no reheated meats can be “rare”; they will all be well done.

COOLING SOLID OR SEMI-SOLID FOODS

- **REDUCE FOOD DEPTH OR 4” OR LESS**
- **REFRIGERATE UNCOVERED WHILE THE FOOD IS STILL HOT**

Solid foods (meats, refried beans, rice, potatoes, casseroles, stews, and thick chowders) must be cooled as rapidly as possible to stop harmful bacteria from growing. Large roasts and turkeys must be cut into pieces 4” or less in thickness. A shallow food depth of 4” or less will allow foods to cool rapidly. Following cooking or hot holding immediately reduce the depth of the food down to below 4” and promptly refrigerate it while hot. Covers trap air and foods cool slower when covered. Leave food uncovered until it has cooled to below 45 Deg. F.

COOLING LIQUID FOODS

- **REDUCE FOOD DEPTH OR 4” OR LESS**
- **REFRIGERATE UNCOVERED UNTIL COLD**
- **OR**
- **USE AN ICE AND WATER BATH**
- **USE THERMOMETER TO CHECK FOOD TEMPERATURES WHILE COOLING**

- **COOL TO 45 DEG. F. IN 4 HOURS OR LESS**

Liquid foods such as thin soups and sauces may be cooled using the shallow pan method, or they can be cooled using the ice and water method. For shallow pan cooling, after cooking or hot holding, immediately reduce the depth of the food to 4" and promptly refrigerate while the food is still hot. Leave foods uncovered until it has cooled to 45 Deg. F. in the refrigerator. It is best to use shallow metal pans for cooling. Metal pans cool foods faster.

To properly cool using the ice and water method you must:

1. Place a metal contained of the hot food in a large sink with the drain closed.
2. Fill the sink with ice to the level of the food inside the container being cooled.
3. Add cold water to the ice.
4. Stir the food frequently to promote even cooling.
5. Add more ice as it melts.
6. Check to food temperatures with a metal stem thermometer.
7. Be certain you have cooled the food from 140 Deg. F. to below 45 Deg. F. in 4 hours or less.
8. Put the food into the refrigerator.

If you notice the foods are not cooling rapidly, you are probably attempting to cool too much hot food for the amount of ice you have available. If you have large quantities to cool, break them down into smaller containers and cool each of these in separate ice baths, or reduce the food depth to 4" or less and refrigerate. Cooling is a time-consuming step that must be done properly. Inadequate cooling is the number one cause of food poisoning. Be sure to use a metal stem thermometer to check temperatures. Whenever possible, avoid cooling by making foods fresh daily, just before serving.

ROOM TEMPERATURE STORAGE OF FOODS

- **DO NOT STORE POTENTIALLY HAZARDOUS FOODS AT ROOM TEMPERATURE**
- **ALWAYS KEEP POTENTIALLY HAZARDOUS FOODS ABOVE 140 DEG. F. OR BELOW 45 DEG F.**
- **AVOID LENGTHY PREPARATION TIMES**

Bacteria that cause food poisonings can grow rapidly in potentially hazardous foods that are kept at room temperatures. Foods kept out will warm up or cool down to room temperature. All hot foods, including meats, soups, and sauces, must either be kept 140 Deg. F. or hotter or transferred to shallow pans and immediately refrigerated or put in an ice bath for proper cooling. No room temperature storage of potentially hazardous foods! All cold foods, including sandwich ingredients, diced ham, cream-filled pastries, and liquid coffee creamers must either be kept in a refrigeration unit at 45 Deg. F. or colder or properly iced. No room temperature storage!

When preparing large quantities of foods, remove only a small portion at one time from refrigeration or hot holding and keep the remainder of the food hot or cold. Potentially hazardous foods should never be stored at room temperature.

THAWING METHODS

- **IN REFRIGERATION UNITS**
- **UNDER COOL RUNNING WATER**
- **IN A MICROWAVE FOLLOWED BY IMMEDIATE COOKING OR SERVICE**

Proper thawing requires that you plan ahead. There are only three approved methods for thawing or defrosting potentially hazardous foods. They are : 1) thawing in a refrigerator, 2) under cool running water, or 3) in a microwave. Microwave thawing is acceptable only if the food is going to be cooked or served immediately thereafter. It is not acceptable to thaw potentially hazardous foods on the counter, at room temperature, or in warm water, because these methods may allow dangerous bacteria to grow to high numbers.

ADVANCED PREPARATION OF POTENTIALLY HAZARDOUS FOODS

- **PREPARE POTENTIALLY HAZARDOUS FOODS JUST BEFORE SERVICE WHENEVER POSSIBLE**

Preparation of potentially hazardous foods in advance should be avoided whenever possible. Potentially hazardous foods should be prepared just before service to reduce health risks. When foods are prepared too far ahead of the service time, bacteria may have time to grow to high numbers if proper temperatures are not maintained. This excessive bacterial growth could cause a food poisoning.

Preparation just before service is much safer because bacteria do not have enough time to grow. If foods are cooled, refrigerated, and reheated before service, the foods become more hazardous. Improper cooling methods, inadequate refrigeration temperatures, and improper reheating techniques are very common, and these are some of the main problems that lead to food poisonings. The food handling problems can be controlled if potentially hazardous food are prepared from fresh, properly refrigerated ingredients, cooked if required, and served immediately.

PREPARATION OF COLD SALADS AND SANDWICH SPREADS

- **USE UTENSILS TO MIX, NOT HANDS**
- **USE INGREDIENTS THAT HAVE BEEN PRE-CHILLED TO 45 DEG. F. OR LESS**

Foods such as potato salad, macaroni salad, egg salad, and chicken salad may allow growth of bacteria that cause food poisonings. Dicing, slicing, and mixing may contaminate the food with bacteria from hands or work surfaces. To keep bacteria from growing, all ingredients that are cooked in advance must be properly cooled to below 45 Deg. F. before mixing these ingredients together. For example, potato salad should be made with only cold eggs and cold potatoes. If the temperature of these foods is between 45 Deg. F. and 140 Deg. F., then the bacteria could grow and cause food poisonings.

FAILURE OF EQUIPMENT

- **MAKE SURE POTENTIALLY HAZARDOUS FOODS ARE KEPT HOT (OVER 140 DEG. F.) OR COLD (BELOW 45 DEG. F.)**
- **CLOSE THE FOOD SERVICE ESTABLISHMENT IF YOU HAVE AN EXTENDED POWER OUTAGE OR LOSS OF WATER SUPPLY OR SEWAGE BACKUP**
- **CALL THE HEALTH DEPARTMENT FOR HELP AND ADVICE**

If your food service establishment loses power or water supply or if sewage back up into the building, the operation must be closed so that it does not create a public health hazard. If refrigeration breaks down but the food temperatures are still below 45 Deg. F., move the foods to another unit that works. If hot holding equipment fails and the food is still above 140 Deg. F., move the food to a unit capable of maintaining proper temperatures, or rapidly cool those foods using approved methods. Use your metal stem thermometer to check the temperatures. If the foods are not at proper temperatures, call the Maricopa County Health Department for assistance.

CHAPTER 3 PREVENTING CONTAMINATION OF FOODS

HANDWASHING

- **HANDWASHING PREVENTS FOODBORNE DISEASE**
- **ALWAYS WASH YOUR HANDS AFTER USING THE TOILET, BEFORE STARTING WORK, AND AFTER HANDLING UNCLEAN OBJECTS**
- **WASH WITH HOT, SOAPY WATER AND DRY WITH PAPER TOWELS OR AIR DRYER**
- **WASH YOUR HANDS FREQUENTLY DURING FOOD PREPARATION**

Bacteria grow very well on skin, and hands are always contaminated with bacteria. Improper or lack of handwashing is a major cause of many food poisonings. In order to eliminate the possibility of bacteria and viruses being passed from your hands to food, it is very important to wash your hands regularly. Wash your hands after going to the toilet, before starting work and after handling unclean objects or raw

meats. It is especially important to wash your hands after using the toilet because bacteria from fecal material contaminate a person's hands. The bacteria can then get into food where they can cause illness when someone eats the contaminated food. Common hand towels or aprons are not allowed for hand drying because they recontaminate hands. Use hot soapy water to wash hands and dry with paper towels or air dryer.

DON'T WORK IF YOU HAVE A DISEASE THAT CAN BE SPREAD THROUGH FOOD

- **DON'T WORK IF YOU HAVE AN ILLNESS SUCH AS A COLD, HEPATITIS, OR FLU, OR SYMPTOMS SUCH AS DIARRHEA, VOMITING, OR SORE THROAT**
- **DON'T WORK IN FOOD PREPARATION IF YOU HAVE AN INFECTED CUT, BURN, OR WOUND ON YOUR HAND**

Food workers who are sick with a cold, flu, hepatitis, diarrhea, vomiting, sore throat, or runny nose should not work in a food service establishment. The bacteria or viruses causing these diseases are easily transferred from sick food workers to people who eat foods prepared or served by the sick worker.

Infected cuts, burns, and wounds are common problems for food workers. If you have an infected cut, burn, or wound on your hand, you should not prepare any food items or wash dishes.

If any food worker has hepatitis, the Health Department should be notified immediately.

CROSS CONTAMINATION

- **BACTERIA FROM RAW FOODS CAN CONTAMINATE COOKED OR READY-TO-EAT FOODS**
- **KEEP RAW MEATS SEPARATE FROM OTHER FOODS**
- **SANITIZE FOOD CONTACT SURFACES**

It is important to keep raw food separate from cooked food to prevent cross contamination. Cross contamination happens when bacteria from raw foods contaminate cooked foods or other foods that will not be cooked before eating. Usually, raw meats are the main source of cross contamination. When blood or juice from raw chicken, pork, or other meat gets onto a counter, cutting board, utensils, or hands, bacteria are transferred to other foods. Do not store raw meats or raw poultry above cooked or ready-to-eat food. Store them on the lowest shelf or in a separate section. Proper washing and sanitizing of all food contact surfaces is essential.

HAND CONTACT - USE OF UTENSILS

- **AVOID HAND CONTACT WITH FOODS**
- **USE UTENSILS WHENEVER POSSIBLE**

Hands are contaminated with many types of bacteria that can make people sick if they get into foods. Some hand contact is necessary. It is very difficult to assemble sandwiches or slice fruits and vegetables without touching them. Whenever possible, use a utensil instead of your hands. Another good idea is to use disposable plastic gloves if the food you are preparing requires extensive hand contact. Never mix salads or other foods with your hands. Remember to minimize hand contact whenever possible and use utensils to transfer foods from place to place.

GENERAL FOOD PROTECTION

- **COVER FOOD TO PROTECT FROM OVERHEAD DRIPS**
- **USE SNEEZEGUARDS AND COVERS OVER SELF-SERVICE FOODS**
- **STORE FOOD OFF THE FLOOR ON PALLETS OR SHELVES**

When storing foods, be sure to protect them from contamination. Rodents and insects, people coughing and sneezing, and water dripping from above can all contaminate food.

Proper procedures include the following. Except for foods that are being cooled, all stored foods must be covered. Open displays of foods, such as salad bars, buffet lines, bakery items, and bulk foods, must be

covered or have sneezeguards. When storing foods in a storeroom or walk-in refrigerator, make sure that the food is stored off the floor. Do not store food or any food contact items in restrooms.

BULK FOODS

- **DISPENSE FROM APPROVED CONTAINERS**
- **USE UTENSILS TO AVOID HAND CONTACT**

Bulk foods must be stored and dispensed properly to prevent contamination. To protect the foods when stored, the containers must be 6" or more above the floor level, made from approved materials, and have self-closing lids.

An employee must be designated to be responsible for cleaning and stocking the bulk food containers. Proper utensils must be available for customers to dispense bulk foods. They may include scoops or tongs. any bulk foods returned to the store must be destroyed.

CULINARY CUSTOMS

- **DON'T TASTE FOODS MORE THAN ONCE WITH THE SAME SPOON**
- **DON'T USE YOUR FINGERS FOR TASTING FOODS**

Once used for tasting a spoon is contaminated, and if placed back into a food item for another taste, the spoon will contaminate that food. Do not use fingers for tasting of foods because this procedure will also contaminate the foods. Use a clean spoon for tasting, and do not reuse it until it has been properly washed and sanitized.

SMOKING

- **DO NOT SMOKE WHEN PREPARING OR SERVING FOOD**
- **WASH HANDS AFTER SMOKING**

Smoking during food preparation or service can contaminate the food. Smoking contaminates hands, which may contaminate food. Smoking should only be done during break periods in a designated area separate from the food preparation, dishwashing, and storage areas. Wash hands after smoking to make sure that hands are clean before returning to work.

PESTS AND PESTICIDES

Pesticides used to control insects and rodents are poisonous to humans as well as pets.

To minimize rodent and insect problems, clean the establishment routinely, use screen doors, cover entry holes into the building, store garbage in containers with lids, remove garbage regularly, and keep dumpsters and garbage cans clean.

Should an insect or rodent problem develop, the services of a licensed pest control operator will be needed. Use of pesticides by food workers is prohibited by state law.

PROPER STORAGE OF CHEMICALS

- **STORE ALL CHEMICALS AWAY FROM FOOD ITEMS**
- **ALL CHEMICAL CONTAINERS MUST BE PROPERLY LABELED**
- **CHEMICALS MUST BE KEPT IN THEIR ORIGINAL CONTAINERS**

Cleaners, polishes, and sanitizers are chemicals which can cause sickness if they accidentally become mixed with food items. All chemicals must be kept in their original containers so that they can be easily identified. This label identifies the contents, tells how to use it, and includes safety precautions. All chemicals must be stored away from food items. They must be kept below foods, so that if a chemical spills, it will not contaminate the food.

DON'T STORE FOODS IN TOXIC CONTAINERS

- **USE ONLY APPROVED CONTAINERS FOR FOOD STORAGE**
- **SOME CONTAINERS ARE TOXIC AND SHOULD NOT BE USED FOR FOOD STORAGE**

Some containers are not approved for food storage. Unacceptable containers include garbage bags, galvanized cans, enamelware, and porcelain items. Do not store foods in containers that previously held chemicals because chemicals can be transferred from the container into foods. If plastic bags are used, they must be made of food grade plastic.

CHAPTER 4 APPROVED FOODS

APPROVED SOURCES OF FOOD

- **SERVE FOODS FROM APPROVED SOURCES ONLY**
- **NO HOME PREPARATION OF FOODS**

All food in food service establishments must be from sources which are approved by the Health Department. For example, meats must have USDA approval, canned products must be processed by commercial canneries, milk must be pasteurized and meet Grade A standards, and shellfish must have state or federal approval.

All food prepared for public consumption must be prepared at a location approved by the Health Department. There can be no home preparation of foods. The approved kitchen must be available for routine inspection by the Health Department to assure safe, sanitary preparation and storage of food.

UNWHOLESOME OR ADULTERATED FOOD

- **FOOD WHICH IS UNFIT TO EAT**
- **IF IN DOUBT, THROW IT OUT**

An unwholesome or adulterated food means a food which is not safe for people to eat. Examples of adulterated foods which are not safe to eat are food from a swollen can, moldy food, game meat and spoiled fish. The general rule to follow on a questionable food is "if in doubt, throw it out".

FOOD ADDITIVES

- **SULFITING AGENTS MAY NOT BE ADDED AT RETAIL ESTABLISHMENTS**
- **MSG MAY BE USED IN SMALL QUANTITIES ONLY**

In the state of Arizona there is a ban on the use of sulfiting agents at the retail level. Compounds used for freshening or whitening that contain sulfiting agents may not be used at any food service establishment.

Many commercially prepared foods still contain sulfiting agents. Sulfiting agents are not generally harmful, however, some people are sulfite sensitive and may develop an allergic reaction. Employees at all food service establishments should know which menu items may contain sulfites so that customers can be accurately informed.

MSG (monosodium glutamate), a flavor intensifier, may be added to foods but only in small quantities. Excessive use may cause allergic reactions.

CHAPTER 5 CLEANING AND SANITIZING

SANITIZING FOOD CONTACT SURFACES

- **SANITIZE AFTER EACH USE**
- **SANITIZE AT OPENING AND CLOSING**
- **SANITIZE WHENEVER CONTAMINATED**

All food contact surfaces including knives, cutting boards, meat slicers, and all other equipment and utensils for preparation or serving must be cleaned and sanitized after each use. For example, after slicing meats, all equipment and utensils should be sanitized before preparing vegetables. Sanitizing can be

accomplished by using an approved dishwashing method or by using a clean wiping cloth that has been rinsed in a sanitizing solution. Additionally, all food contact surfaces should be thoroughly cleaned and sanitized at opening and closing times and, of course, whenever contaminated.

WIPING CLOTHS

- **KEEP CLEAN**
- **RINSE IN SANITIZER**
- **STORE IN SANITIZER**

Wiping cloths should be kept in a clean and sanitary condition at all times. When wiping cloths become dirty, they should be cleaned and rinsed in a sanitizing solution before re-use. Wiping cloths that have been rinsed in a sanitizing solution not only clean but also kill bacteria on all surfaces they contact. Wiping cloths that are used without being cleaned and then rinsed in a sanitizer can actually contaminate surfaces and re-distribute bacteria. When not in use, clean wiping cloths should be stored in the sanitizing solution.

SANITIZERS (For Wiping Cloths)

- **USE BLEACH WATER SOLUTION (OR OTHER SANITIZER APPROVED BY THE HEALTH DEPARTMENT)**
- **CHANGE SOLUTION FREQUENTLY**

All wiping cloths should be rinsed in an approved sanitizer. The least expensive and most common sanitizer for use with wiping cloths is a chlorine solution made by mixing 4 tablespoons or 2 oz. of bleach with 1 gallon of cool water. The solution should not contain soap. This concentration of bleach water is sufficient to kill bacteria on all food preparation surfaces. The sanitizing solution should not be confused with bleach water used for whitening of wiping cloths. The sanitizing solution should not be allowed to become dirty and should be changed frequently to maintain its effectiveness.

APPROVED DISHWASHING METHODS

- **WASH-RINSE-SANITIZE**
- **AIR DRY**

Whether done by hand or machine, all dishes and utensils must be washed, rinsed, and sanitized. Dishes should be scraped of all excess food before they are washed. Dishes must be pre-washed by flushing under running water or sprayed to remove food particles and grease. manual dishwashing, using a 3-compartment sink, should be as follows: Wash in the first sink using hot water and detergent to remove and suspend soils. Rinse in the second or middle sink using clean warm water to remove soil and detergent residue. Sanitize in the third sink using an approved chemical sanitizer to destroy any remaining bacteria. Approved chemical sanitizers include: chlorine-based products (including bleach) at 50 - 100 ppm concentration, iodine products at 12.5 ppm concentration, or other equivalent products at concentration approved by the Health Department. After sanitizing, all equipment and utensils should be air dried.

Commercial dishwashing machines incorporate exactly the same procedures as manual dishwashing except they may use either chemical sanitizers or high temperature final rinse water (180 Deg. F.) to sanitize. Always air dry to complete the dishwashing procedure. Towel drying is not permitted.

STORAGE OF CLEAN EQUIPMENT AND UTENSILS

- **PROTECT FROM CONTAMINATION**
- **MINIMIZE HANDLING**

Storage of clean equipment and utensils should be arranged to protect the food contact surfaces from all sources of contamination. Equipment and utensils should always be stored in clean and dry areas. They should be off the floor to protect from dust and splashes, and away from sewer lines, water lines, and open stairwells.

Cups and glasses should be stored on clean surfaces upside down to prevent handling of the rims. Eating utensils should be stored with only the handles exposed, to minimize unnecessary handling.

STORAGE OF FOOD DISPENSING UTENSILS

- **CLEAN AND DRY**
- **RUNNING WATER DIPPERWELL**
- **IN FOOD, WITH HANDLE OUT OF FOOD**

Between uses, food dispensing utensils such as knives, ladles, and scoops should be stored either clean and dry, or in a running water dipperwell, or in the food with the handle extending out of the food. Food dispensing utensils should always be free from contamination and cleaned and sanitized at regular intervals.

GENERAL CLEANING

- **NEEDED THROUGHOUT THE FACILITY**
- **NEEDED THROUGHOUT THE DAY**

Thorough cleaning of floors and walls should be done during periods when the least amount of food is exposed, such as after closing or between meals. General cleaning, however, should be done on a constant and continuous basis. It is never acceptable to have a filthy kitchen. Even during peak times a kitchen should be operated in a clean and sanitary manner. Cleaning as you go will help minimize the potential for mishandling and cross-contaminating foods. Safety hazards and the potential for accidents will also be reduced when employees can work in a clean and orderly environment.

CHAPTER 6 GLOSSARY

The following terms are important to food workers. Knowing the meaning of these terms will help you prepare and serve food safely.

APPROVED SOURCE means a food product (or water supply) acceptable to the health authority. Examples of approved sources of food include USDA (United States Department of Agriculture) inspected meats, and food products prepared in food processing plants inspected by ADHS (Arizona Department of Health Services) or FDA (United States Food and Drug Administration). Water or ice used in a food service establishment must be from an approved water supply.

CROSS CONTAMINATION occurs when bacteria from raw foods contaminate cooked foods or other foods that will not be cooked before eating. These bacteria may be transferred by surfaces, utensils, or hands. An example would be a food service worker who cuts raw chicken and then cuts cooked chicken without washing his or her hands and without cleaning and sanitizing the cutting board and knife.

PERISHABLE FOODS are those that deteriorate or spoil due to loss of moisture, growth of molds and bacteria and those damaged by poor handling practices. Examples are fresh vegetables and fresh fruit.

pH (OR ACIDITY) is important to food safety because the acidity of a food may determine whether a food allows the growth of foodborne illness causing bacteria. Foods high in acid such as pickles, fruit juices, and sauerkraut, generally limit the growth of harmful bacteria. However, most meats, fish, poultry, cooked grains and dairy products are LOW in acid. Low acid foods allow growth of foodborne illness causing bacteria if not kept either HOT, above 140 Degree F., or COLD, below 45 Degrees F.

POTENTIALLY HAZARDOUS FOODS are foods that allow rapid growth of bacteria that may cause food poisoning. Potentially hazardous foods need to be kept COLD, (45 Degrees F. or less), or HOT, (more than 140 Degrees F.) to limit bacterial growth. Examples of potentially hazardous foods are eggs, meats, poultry, fish, shellfish, and dairy products. Other potentially hazardous foods are refried beans,

cooked rice, baked potatoes, and reconstituted dried milk. Even though these last foods are not potentially hazardous in the dry state or uncooked state, once water has been added and/or they have been cooked, they do support the growth of bacteria.

SINGLE SERVICE (disposable) articles are cups, containers, plates, lids, spoons, straws, and napkins provided for one-time, one-person use. These items must be discarded after use.

WATER ACTIVITY (A_w) is the amount of moisture in a food available for bacterial growth. Bacteria need a certain amount of moisture to multiply: without moisture they cannot grow. Potentially hazardous foods have a sufficient water activity (adequate water) to allow growth of harmful bacteria. Examples of foods with LOW water activity are pepperoni and beef jerky, breads, cakes, and parmesan cheese. Low water activity foods do not support the growth of harmful bacteria.